

Engineering Conferences International ECI Digital Archives

CO2 Summit II: Technologies and Opportunities

Proceedings

Spring 4-11-2016

Chemical Utilization of CO₂ for grid-scale energy storage: a prospective scenario of China and global energy connection

Pengxiang Song

Smart Grid Research Institute

Bo Zhao

Smart Grid Research Institute

Zhaolong Du

Smart Grid Research Institute

Follow this and additional works at: http://dc.engconfintl.org/co2_summit2



Part of the [Environmental Engineering Commons](#)

Recommended Citation

Pengxiang Song, Bo Zhao, and Zhaolong Du, "Chemical Utilization of CO₂ for grid-scale energy storage: a prospective scenario of China and global energy connection" in "CO₂ Summit II: Technologies and Opportunities", Holly Krutka, Tri-State Generation & Transmission Association Inc. Frank Zhu, UOP/Honeywell Eds, ECI Symposium Series, (2016). http://dc.engconfintl.org/co2_summit2/50

This Abstract is brought to you for free and open access by the Proceedings at ECI Digital Archives. It has been accepted for inclusion in CO₂ Summit II: Technologies and Opportunities by an authorized administrator of ECI Digital Archives. For more information, please contact franco@bepress.com.

CHEMICAL UTILIZATION OF CO₂ for GRID-SCALE ENERGY STORAGE: A PROSPECTIVE SCENARIO OF CHINA AND GLOBAL ENERGY CONNECTION

Pengxiang Song, Bo Zhao, Zhaolong Du

Smart Grid Research Institute, State Grid Corporation of China, Beijing
P.R. China

Utilizing carbon dioxide (CO₂) sequestered from large point sources to produce fuels and chemicals has been proposed as an energy carrier of storing intermittent renewable energy. The integrated technology is Power to Gas (PtG), or Power to Liquid (PtL) process. In the scenario of very-high installed renewable energy source (RES>80%) or curtailed wind/solar energy, the RES+PtG/ PtL will play an important role of energy transition while fossil fuels are phased out. The study reviews and assesses the technology development, economic feasibility, system impact and future outlook in prospective of grid-scale analysis and global energy interconnection.